

CITY COUNCIL

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July 3, 2007

TO:

Councilmembers

FROM:

Councilmember Donovan M. Dela Cruz

RE:

Report and Findings – 3rd Urban Street Symposium - Seattle, Washington

June 24 – 27, 2007

Attached is a copy of the report on the briefing and meetings attended in Seattle, Washington, June 24 - 27, 2007. The report will be filed with the City Clerk.

If you have questions regarding the foregoing, please do not hesitate to call me directly

Attachment

Copy: City Clerk

CITY COUNCIL, ...

Monday, June 25, 2007

Cross Section Design - Part 1

- 1. Jim Brewer Moderator
 - a. Presentation: Benefits and Risks of Urban Roadside Landscape: Finding a Livable, Balanced Response
 - i. Speaker discussed the benefits and risks of urban landscaping.
 - 1. Identified numerous positive values associated with urban landscaping in communities that are striving for healthy neighborhoods and economic vibrancy.
 - 2. Identified advantages to the surrounding community including enhanced property value, environmental benefits, and aesthetic enhancements.
 - 3. Discussed safety concerns regarding street tree placement.
 - a. It is essential that transportation professionals work closely with urban foresters to identify strategies to systematically design roadway corridors with streetscape features as critical components.
 - b. Local decision makers and transportation planners may acknowledge the need for community values to be reflected in urban roadway design, but the difficulty lies in implementation.
 - c. It is essential to incorporate community values into the transportation engineering process or in design standards.
 - d. Meanwhile, some transportation designers are calling for more dramatic innovations, such as:
 - i. Psychological traffic control. It is a proposed theory that physical elements (including trees) can be arranged within the road corridor to promote social interactions that generate a sense of shared space and prompt appropriate driving speeds and behaviors.
 - ii. This issue should not be simply framed as one of safety versus aesthetics or environment, but rather one of how trees can be effectively incorporated into a safe roadside design that integrates engineering, community values, and environmental services.
 - e. Better understanding of trees and urban roads will contribute to transportation systems that are safer, handle traffic volumes efficiently and are perceived as community assets.

b. Presentation: Cross Section Width for Parallel Parking

i. Speaker discussed urban street design standards for parallel parking.

1. Identified the growth of alternative roadway design approaches, such as Traditional Neighborhood Design and Context Sensitive Design as an urban street design standard.

2. Explained that some standards called for urban street cross sections that are narrower than those recommended in established design references.

a. The width provided for on-street parallel parking is one cross section design element for which there is some variation among different published guidelines and practices.

ii. Speaker also discussed findings to determine how much width was actually occupied by parallel-parked passenger cars, both in commercial and in residential areas.

c. Presentation: Iowa's Experience with 4-lane to 3-lane Conversions

i. Speaker provided highlights of Iowa's experience of converting lanes from 4-lanes to 3-lanes.

1. Explained that over the past couple decades, Iowa has converted several 4-lane urban roadways to 3-lane sections. Most of these have been on low volume roads in smaller communities. Recently, multiple analyses have been conducted to explore the safety and operational impacts of these conversions. Each of these analyses have shown positive impacts of the 4-lane to 3-lane conversions in Iowa.

ii. Speaker also highlighted the results of the analyses and stated that relative to total crash history, results indicate a 25.2% reduction in crash frequency per mile and an 18.8% reduction in crash rate.

Complete Streets Become Great

1. Nikiforos Stamatiadis – Moderator

a. Presentation: Shared-Use Streets – an Application of "Shared Space" to an American Small Town

i. Speaker highlighted shared-use streets experiences of Langley, Washington (Langley), a semi-rural town of 1,050 people, and its success as a pedestrian-friendly town.

1. Anticipating the growth of 40 to 100 percent over the next 20 years, Langley is developing new street design standards to support all users and modes.

- a. One of the new street types is "shared-use," which mixes pedestrians, bicyclists, and drivers in a low-speed environment that emphasizes the community function of the street. Several streets in Langley already operate in this way; by codifying standards, the benefits can be preserved and distributed to more areas.
- ii. Speakers identified the concept for shared-use streets came from the European "shared space" movement, which differentiates between the highway and the streets within a town.
 - 1. Highlighted highway features such as traffic signals, lane markings, etc. are removed within the town. Streets are instead designed as public spaces, providing strong contextual cues to drive slowly and carefully while implementing features that support safe and enjoyable use by walkers, bikers, and others. Shared space has a history of over 20 years, successfully demonstrating improvements in safety and livability.
- iii. Speaker also explained that adapting shared space to a semi-rural American setting requires a combination of place-sensitive solutions.
 - 1. "Shared space" concept can be achieved by creating designs that encourage slow speeds through the use of innovative, community-based traffic calming elements on designated shared-use roadways.

b. Presentation: Retrofitting Urban Arterials into Complete Streets

- i. Speaker identified ways traditional designs of urban arterials are being transformed from just moving as many motor vehicles as fast as possible, to consideration of all the users of the entire road right-of-way.
- ii. Speaker identified ways to make urban thoroughfares more pedestrian and bicycle friendly and respectful of the surrounding community.
 - 1. Identified one of the major problems in incompatible urban arterial street design is equating high speed with roadway mobility and capacity.
- iii. Speaker identified techniques for designing an arterial street that can control traffic speeds, thus permitting more comfortable and safe pedestrian and bicycle access.

c. Presentation: St. Louis Great Streets Initiative

i. Speaker provided highlights of the St. Louis Great Streets Initiative which was intended to empower local communities to be advocates for improved street designs that will strengthen the communities and spur healthy economic development.

- ii. Speakers explained that the year-long Initiative developed by regional governments and the local metropolitan planning organization (MPO) had four stages:
 - A Great Streets Symposium to introduce the concepts and to stimulate local leaders to consider taking action.
 - A digital Reference Guide, designed to provide technical assistance to the local governments and implementing agencies.
 - A technical workshop to familiarize interested communities with the Guide and to encourage them to begin developing projects.
 - Approximately three demonstration projects selected from nominations by the communities.

Design for the Context

- 1. Michael Dimaiuta Moderator
 - a. Presentation: Sustainable Urban Street Design and Assessment
 - i. Speaker discussed opportunities for the development of sustainable design guidelines for urban streets.
 - Guidelines for assessing sustainable urban street options were provided as well as key challenges facing the widespread adoption of these principles.
 - 2. Considering and assessing sustainable options will enable urban streets to function in a manner that is more beneficial to people, communities, the economy and the environment.
 - b. Presentation: Designing Inside the Box: Strategies to Successfully Marry Smart Growth and Context-Sensitive Transportation Initiatives
 - i. Speakers discussed various challenges between traditional road way design and land use and smart growth design and strategies
 - 1. Stated that these challenges are more pronounced in contextsensitive transportation design.
 - ii. Speakers explained that roadway designers can successfully develop roadway parameters that balance the needs of the motorist and other odes, while adhering to acceptable and proven design guidelines.

- iii. Speakers also discussed the following topics which help demonstrate the marrying of smart growth and context-sensitive transportation:
 - 1. The intent of local design standards and some of their unintended consequences;

2. The inherent flexibility within acceptable national design guidelines;

3. A collaborative design strategy in which stakeholders and local officials are brought into the design process at its inception;

4. Examples where flexibility applied in this manner have resulted in roadway designs that holistically blend into and enhance the environment; and

5. An update on ongoing efforts to update design guidelines to address smart growth, such as the joint effort between the Institute of Transportation Engineers (ITE) and the Congress for New Urbanism (CNU) to address urban street design.

iv. Speakers explained that as more communities embrace smart growth, the transportation design profession must adapt to alternative design strategies that result in roadways that are more consistent with the context in which they are constructed. The inherent flexibility in the accepted design guidelines, the ongoing work of groups such as the joint ITE/CNU venture, and the nature of the collaborative design process can insure success in designing livable transportation solutions.

Tuesday, June 26, 2007

Designing Transit in the Street

- 1. Elizabeth Hilton Moderator
 - a. Presentation: Aurora Urban Street Standards Development For Transit Oriented Developments and Urban Centers
 - i. Speakers discussed how Bus Rapid Transit (BRT) has been integrated into the Aurora Corridor Project in the Seattle, Washington area.
 - 1. Stated that traffic demands in urban areas are exceeding the capacity of highways and streets. Due to the limited rights-of-way and increasing costs for reconstructing major arterials, incorporating high capacity transit elements into arterial projects is becoming a necessity.

ii. Speakers provided The City of Shoreline (Shoreline), Washington, as an example of developing urban street standards development for TOD and Urban Centers.

1. Stated that Shoreline initiated a project to identify a multi-modal design alternative for Aurora Avenue.

- 2. Identified Shoreline's comprehensive plan which called for a design for Aurora Avenue that addresses transit, safety and an improved business environment.
- 3. Noted that several alternatives were analyzed.
 - a. One of the arterial transit lane concepts considered included an additional lane for transit and right-turning vehicles only, however this solution was controversial with business and property owners who were concerned with right-of-way take and access.
 - b. A "Business Access and Transit" lane concept was established for this project to address the concerns of the business and property owners' concerns.
- 4. Concluded that these lanes and other transit supportive infrastructure such as in-line stops, enhanced shelters and transit signal priority are designed to support an ultimate corridor BRT program.

b. Presentation: Designing Streets for Enhanced Transit Service – The Jerusalem Experience

- i. Speakers highlighted planning issues surrounding a traffic calming program downtown and the construction of a 5.3 mile busway into the streets of Jerusalem.
- ii. Speakers discussed planning principals for the busway that include: continuity; bus traffic control priority; reduction of number and width of traffic lanes and other geometric standards; traffic impact mitigation by area-wide traffic plans, turn prohibitions, and bypass roads; landscaping and other development features; pedestrian safety measures; disability access to stations; and parking and commercial vehicle accommodations.
 - 1. These principals were adapted to conditions in four typical sections: Outlying, Urban Arterial, Downtown Approach Streets, and Center City Streets. In some cases inadequate ROW had to be widened through land taking and demolition, but generally existing ROW was reallocated at the expense of private car lanes.
- iii. Speakers also stated that in addition to transport objectives, downtown traffic calming assisted downtown revitalization through improving pedestrian ambience and lowered noise and pollution levels.
 - 1. The major elements of a street designated for traffic calming include: an entry "gate", including raised pavement and landscaping elements; reduced lane width and numbers; reduction of on-street parking; raised elements serving as speed humps; reduced turning radii; and staggered sections.

iv. Speaker noted that public participation was encouraged in project planning, but still many problems were only solved at the implementation stage. The busway has met its traffic goals but has been marred by pedestrian accidents. These and other lessons learned should be applied in future projects

A Better Environment for Bikes and Peds

- 1. Paul Dorothy Moderator
 - a. Pedestrian Crossings Priority for Pedestrian Safety
 - i. Speakers explained why pedestrian crossings are potentially one of the most dangerous and stressful situations for vulnerable road users, such as pedestrians, cyclists, handicapped persons and other.
 - 1. Identified those who are most vulnerable are school children and senior citizens.
 - ii. Speakers explained that pedestrian crossing construction or reconstruction should not be done without proper planning; it must be planned in a wider perspective of traffic situations, in order to increase traffic safety for all road users.
 - 1. All proposed road crossings have to be sorted in order of priority, which depends on many different criteria, measurable and non-measurable.
 - 2. For each proposed new pedestrian crossing or reconstruction of an existing pedestrian crossing, a broader picture of the traffic situation should be presented, in order to reach the right decisions.
 - iii. Speakers identified the need to set a priority list of crossings was addressed by using the ExperChoice 2000 multi criteria software, which uses AHP (Analytic Hierarchy Process) methods and procedures.
 - 1. As a result, a test run was performed over the collected data and over the database of existing road crossings. A priority list of pedestrian road crossings was established, both for existing and planned or proposed pedestrian road crossings.

b. Presentation: Review Guidelines for Establishing School Speed Zones

i. Speakers discussed a recent survey conducted by the Institute of Transportation Engineers Traffic Engineering Council which included a request to identify guidelines or warrants used to determine when to install school speed zones.

ii. Speaker noted that several agencies noted that they use the *Manual on Uniform Traffic Control Devices* (MUTCD) when determining when to install a reduced school speed zone. Some agencies use local or state guidelines.

c. Presentation: Separation Between Pedestrians and Bicyclists

- i. Speakers discussed efforts relating to separating pedestrian and bicycle traffic from motorised traffic
- ii. Speakers explained that in order to achieve this goal, you must let the pedestrians and bicyclists share the space.
 - 1. Identified challenges to combined pedestrian and bicycle paths.
 - a. For pedestrians it is a security and safety problem and for bicyclists a mobility problem.
 - 2. Stated that seniors and visually impaired pedestrians are especially concerned as they often feel insecure when cyclists pass close to them, especially as they neither can see nor hear cyclists coming from behind.
 - 3. Identified that the safety problem is primarily linked to pedestrians walking on the bicycle side of the tracks.
 - 4. Stated that designing the tracks so that the pedestrians and bicyclists keep to their side respectively is important to improve the situation.
 - 5. Explained that field studies were performed at over 100 pedestrian and bicycle tracks and the results were analysed with respect to materials, separation line, flow, signs, dimensions, road markings and surroundings.
- iii. Speakers further explained that the results from the study show that the design has a great impact on whether the road users keep to their side of the pedestrian and bicycle tracks or not. The most efficient design seems to be a difference in material, asphalt on the bicycle side and tiles on the pedestrian side, together with a separation of the two sides, e.g. by paving stones or curbs.
- iv. Speakers also stated that signing has no impact at all whereas the road markings have a great impact.

Involving the Public in Decisions

- 1. Ingrid Potts Moderator
 - a. Presentation: Applying Context Sensitive Techniques to Improve Design and Gain Stakeholder Support
 - i. Speakers highlighted the Mercer Corridor in Seattle, Washington.

- 1. Explained that the Mercer Corridor is an integral part of a transportation network serving Seattle's urban neighborhoods just north of downtown. This corridor has been the subject of decades of study with a wide range of alternatives. However, creating an acceptable solution has been complicated by the range of stakeholders, disagreement on project objectives and high costs.
- 2. Also explained that changing land uses within South Lake Union has been a catalyst for developing a solution that works for a diverse stakeholder group, including the immediate neighborhood.
- ii. Speakers explained that the Mercer Corridor project is an exemplary context sensitive case study bringing multiple interests and stakeholders to the table to improve the overall quality of the design
 - 1. The purpose of the Mercer Corridor project is to improve local safety, access, and circulation within the neighborhood for vehicles, bicycles, and pedestrians, and provide for more efficient movement of traffic and freight through the corridor.
 - 2. This project would better accommodate anticipated urban density in the area as well as anticipated regional and local traffic growth by improving the efficiency of the available grid network and providing more direct connections from I-5 into and through South Lake Union for freight and general traffic.
- iii. Speakers identified the extensive outreach and stakeholder involvement that resulted in a context sensitive solution reflecting community values, with a broad base of support while minimizing environmental impact.
 - 1. Explained that an extensive analysis of a truck rodeo and an inventory of pedestrian facilities were conducted to address the concerns of the freight and pedestrian communities.
 - 2. Explained that research into other urban arterials to assess desirable design features and guidelines was conducted to address concerns about increasing the livability of the area, as well as maintaining the corridors function as a regional connector.
 - 3. Explained that a sustainability workshop is planned to consider refinements to the design that improve the overall efficiency of the design and minimize environmental impact.

b. Presentation: Involving the Public in Redesigning Urban Street Layouts in the UK

i. Speakers explained that there has been growing interest in the UK in redesigning main urban streets, in order to meet new policy objectives relating to efficiency and sustainability.

1. Stated that traditionally, engineers design their preferred scheme, and then seek public approval through a 'consultation' exercise. In areas of intense street activity this can result in strong local opposition, sometimes resulting in proposals being abandoned.

ii. Speakers highlighted an interactive street design exercise which was developed to deal with these more contentious situations by directly involving local stakeholders in developing design options.

1. Explained that the exercise involves a combination of physical and computer-based design aids and has three stages.

a. First, participants are given a briefing about the area, the current conditions, and any minimum design requirements (e.g. associated with local policy objectives), and discuss how they would like to see the area improved.

b. Next participants divide into smaller groups, where they are provided with a large scale plan of the street, at 1:250, and a series of acetates and blocks depicting different features (e.g. parking bays, bus lanes, seating) to scale.

c. Each group is asked to develop street layouts that they feel meet both the minimum requirements and their aspirations for the area.

d. Finally, each design option is entered into a GIS-based computer program that displays the street layouts, and is presented on a large screen for collective discussion.

iii. Speakers stated that the outcome is either a preferred option, or a small number of options, that can be further developed by the engineers and then put forward for formal public consultation

c. Presentation: Analysis of Multifunctional Traffic Environments

- i. Speakers highlighted the ongoing Swedish PhD-project "Multifunctional streets in the city towards a more attractive city for all users and stakeholders".
 - 1. Explained that the focus of the project are arterial streets, i.e. highly multifunctional traffic environments characterized of conflicting functions, with an extensive mix of traffic modes, activities and interests.
 - 2. The aim of the project is to clarify and develop different aspects of the traffic planning process, in order to facilitate the decision making and design process that concerns complex traffic environments.
 - a. Planning and prioritizing is fundamental to have knowledge of all factors a traffic environment consists of as well as how different user groups value these factors.

- ii. Speakers explained that the project has a good view of the relationships between objective, physical aspects as speed, dimensions, flow etc. What is missing is knowledge of how to collect and condense subjective opinions of environmental aspects and how to compare objective and subjective qualities like safety and security.
 - 1. In Swedish traffic planning focus lies on the five qualities safety, security, accessibility, character of the city and environmental influence. In the ongoing PhD-project these qualities will be analysed, complemented and broken down into assessable indicators.
 - 2. The goal is to map out cause-effect relationships and create a planning aid which helps the planner decide and prioritize among single qualities and combinations of qualities.
 - 3. The objective is to assist the planners and decision makers to see which costs and benefits that follow e.g. a lowering of speed or narrowing of the lanes for car traffic

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